Pixel Level Optical Summing for Interlaced Video Display

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ABSTRACT OF THE DISCLOSURE

An image sensor includes a two-dimensional array of pixel elements where the array of pixel elements outputting pixel data representing an image of a scene, and a two-dimensional array of selectively transmissive filters superimposed on the two-dimensional array of pixel elements, whereby each pixel element in the array of pixel elements is disposed to capture a first and a second color spectra of visible light. In one embodiment, the image sensor is a digital pixel sensor where the array of pixel elements is a sensor array of digital pixels, each of the digital pixels outputting digital signals as pixel data. In another embodiment, the pixel elements of the image sensor output analog signals as pixel data. In this manner, light intensity values for two different color spectra are optically summed at the pixel level, providing pixel values that are suitable for use in interlaced video display. The image sensor of the present invention has applications in video cameras employing the CMYG (cyan, magenta, yellow, and green) interlaced capture scheme for capturing full color video images.